

Lifting Devices Addressed in NASA-STD-8719.9

- Overhead Cranes
- Mobile Cranes and Derricks
- Hoists and Winches
- Hooks
- Hydra Sets and Load Measuring Devices
- Special hoist Supported Personnel Lifting Devices
- Slings and Rigging
- Mobile Aerial Platforms
- Powered Industrial Trucks
- Jacks



Jib Crane



YOUR PREPAREDNESS FOR AN AUDIT OF NASA LIFTING DEVICES AND EQUIPMENT REQUIREMENTS WITH THESE SAMPLE AUDIT GUIDE QUESTIONS.

MANAGEMENT:

1. Does the Center periodically review changes to codes/standards and evaluate the need to update existing equipment?
2. Has the Center developed a process to identify critical lifting operations and LDE that must meet critical lift requirements?

PERSONNEL CERTIFICATION:

1. Has an LDE training, examination, and licensing program been established?
2. Have operators certified to perform critical lifts been trained in the specific hazards and special procedures associated with the lift?

LABELING AND TAGGING:

1. Is the rated load/applicable capacity rating of all Lifting Devices and Equipment (LDE) plainly marked in the appropriate location?
2. Is a standard lockout/tagout system used throughout the installation to indicate equipment that is not to be used?

TESTING:

1. Are proof load tests, periodic load tests, and operational tests performed on new or repaired LDE prior to first use when required?

MAINTENANCE:

1. Is there a scheduling system for normal periodic maintenance items, adjustments, replacements, and repairs?

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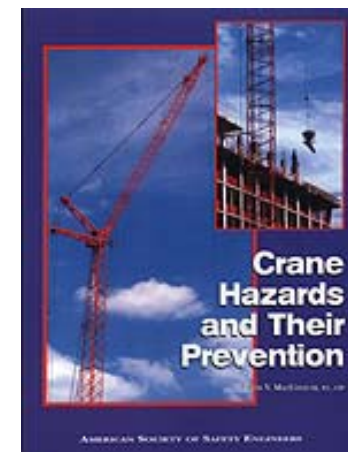


NASA
SAFETY AND MISSION
ASSURANCE
REQUIREMENTS

NASA-STD-8719.9

Standard for Lifting Devices and Equipment

Compliance Verification Guide



OFFICE OF SAFETY AND
MISSION ASSURANCE

This brochure is intended to be used as a guide only, not as a replacement for the actual policy. To review Lifting Devices and Equipment Standard (NASA-STD-8719.9) in its entirety, see <http://www.hq.nasa.gov/office/codeq/doctree/texttree.htm>.

Objective of NASA-STD-8719.9

To Establish minimum requirements for the design, testing, inspection, maintenance, personnel certification, and operation of NASA Lifting Devices and Equipment (LDE) unique to NASA mission and operations.



Crane Casualty

The operator was to raise the tower and then the luffing jib to put it through its operational paces prior to jobsite usage. As he began to lower the jib to attach to the vertical tower section, two lacing members failed (old damage with rust within the failure plane and covered with paint). Since it was just in front of vertical (approximately 88°), the tower folded like a ruler. No one was hurt, except for the operator, who broke his ankle when he jumped from the cab.

MINIMUM AUDIT POINTS FOR NASA-STD-8719.9

Leadership and Management

- ▶ **Center Directors** shall designate in writing one person as the Lifting Device and Equipment Manager (LDEM) for the Center.
 - **Objective Quality Evidence (OQE) – Letters of Designation**
- ▶ **LDEM**
 - Is responsible for the overall management of the installation LDE Program.
 - **OQE – LDE Program Plans and Reports**
 - Shall establish a LDE Committee.
 - **OQE – Committee Reports**
- ▶ **Chief Safety and Mission Assurance Officer**
 - Shall review all proposed safety variances of Federal regulations before submittal for approval.
 - **OQE – OSHA Articles and Reports**
 - Shall monitor subsequent OSHA requirements for any impact on NASA's safe lifting program.
 - **OQE – OSHA Articles and Reports**

Core Process

- ▶ **Each Center**
 - Shall establish a LDE Committee.
 - **OQE – Committee Reports**
 - Shall periodically review subsequent codes/standards and evaluate the need to update existing equipment.
 - **OQE – Equipment Update Bulletins and Letters**
 - Shall develop a process to identify critical lifting operations and lifting devices/equipment that must meet critical requirements.
 - **OQE – Documented Critical Lift Processes**
- ▶ **LDEM**
 - Shall ensure that deviation/waiver documentation includes any alternate or special criteria or procedures that will be imposed to ensure safe design and operations.
 - **OQE – LDE Deviation and Waivers**
 - Shall prepare specific Center written procedures that will be followed for all critical lifts.
 - **OQE – Critical Lift Procedure**

- Shall establish a data collection system to support NASA-wide lifting device trend and data analysis.
- **OQE – Trend Analysis Reports**
- Shall review a safety variance whenever a mandatory requirement cannot be met for the approval process.
- **OQE – Safety Variance or Report**
- Shall establish a lockout/tagout system to indicate equipment that is not to be used since it is uncertified.
- **OQE – Lockout/tagout Log Entries**
- Shall prepare reports after each formal periodic crane inspection.
- **OQE – Inspection Reports**
- Shall ensure that hooks are not overloaded.
- **OQE – Lifting Device Operating Instructions**
- ▶ **Facility Personnel**
 - Shall be qualified and certified to perform LDE Nondestructive Testing (NDT).
 - **OQE – Qualification and Certification Letters**
 - Shall not be working under suspended or moving loads at any time.
 - **OQE – Safety Training Records**
 - Shall perform proof load tests and operational tests prior to first use of new cranes.
 - **OQE – Test Results**
 - Shall be certified (licensed) and trained to use or operate cranes, as required.
 - **OQE – Certification and Training Records**
 - Shall follow all precautions while handling explosives in accordance with approved hazardous operating procedures.
 - **OQE – Hazardous Operating Procedures**

Process Check

- ▶ **Program Manager** shall perform a recognized Safety Hazard Analysis on all lifting devices used for critical lifts.
 - **OQE – Analysis Reports**
- ▶ **NASA Personnel or Contractors** shall be present during critical lifts and shall be designated as responsible for monitoring the safety of the operations.
 - **OQE – Operating Procedures**